

## Negotiating Embodiment: A Reply to Selinger and Engström\*

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Selinger and Engström (this issue) offer a sensitive, challenging, and constructive critique of my account (in *Natural-Born Cyborgs*, henceforth NBC) of embodiment and technological mediation. They make many interesting and valuable points, but three stand out as central to their treatment. First, they highlight the complex interplay between cognition and affect, alerting us to the many ways in which new technologies do not merely reflect, but actively create (with corresponding personal and political complexities) human needs and desires. Second, they identify NBC (correctly) as stressing a certain openness, an ongoing technological negotiability of human embodiment, that (they fear) unjustly undermines the primacy of the lived body. Third, and perhaps most importantly, they question the wisdom of depicting technologically mediated embodiment without a thorough recognition of the political dimensions that pervade material production and use. In all these features Selinger and Engström (henceforth S and E) discern an "instrumentalist view of technology" that distorts lived experience by sacrificing political and phenomenological aptness "on the alter of computational metaphors, instrumentalized conceptions of agency, and informational and cybernetic conceptions of identity" (ms p.33).

To the first worry I plead guilty as charged. NBC is indeed dominated by questions of instrumental problem-solving, and affect and emotion are seldom in sight. That said, there is surely ample scope for what John Protevi (personal communication) calls "a cyborgian affective neuroscience". Affective response is as good a target as any for mediation and transformation by various forms of personal augmentation and environmental scaffolding, though I suspect that this area will initially be dominated more by pharmacological interventions than by the kinds of (non-invasive) augmentation and environmental scaffolding with which NBC was most concerned. Potentially more important is my failure to substantially address the way technologies actively foster new needs and desires, and the political and personal complexities that this creates. I shall take this up under the third heading, along with some other questions concerning responsibility and autonomy.

Concerning the alleged 'primacy of embodiment' (ms p.4) I think this marks a genuine point of disagreement rather than any simple lacuna. For a central theme of NBC is indeed that what is primary is not so much the specifics of this body or that but the capacity of embodied agents (of whatever stripe) to use intentional action and time-locked perceptual feedback to tune and re-tune the circuitry responsible for the sense of body, presence and capacities of action. Even developmentally, such tuning (in humans) precedes most (not all) effective forms of embodied action. I don't see any of this, however, as a return to the vision of mind and self as essentially disembodied or even as merely 'em-brained'. For the active body, on my account, is always and everywhere integral to the perceptual and cognitive life of the agent.

Embodiment, I thus claimed, is essential but always negotiable. This negotiability, this openness to physical and mental transformations on quite a grand (though not unbounded) scale, is part, I wanted to say, of our basic human nature. (Whether this commits me to what S and E see as an objectionable notion of a stable and enduring "human core" (ms p.5) is surely moot, since a major part of that stable core is now the tendency to transformative change itself.)

What, finally, of the much larger worry about (lack of) sufficient political perspective: a failure to grapple with the complexities of ownership and production, of technology-induced desire, and of the perceived attendant threats to personal autonomy and responsibility? Such worries are perhaps starkest when S and E write that "when agency no longer ends "at the skinbag" then neither do attributions of responsibility and irresponsibility" (ms p. 32). I agree. But such attributions are already contested. It is surely no *more* problematic to hold an extended cognitive agent responsible for their actions, choices and desires than it is to so hold a skinbound one. And just as a bare biological agent (if there ever was such a thing) can be coarsely manipulated by external interests or agencies in ways that absolve her of blame for some specific act, goal, or desire, so might the augmented or otherwise extended one. Perhaps the real worry is that unscrupulous commercial or government organizations might, much more subtly and insidiously, spike our mental and physical augmentations with unwanted materials or tendencies. But this, I submit, is nothing new, and the worry is by no means specific to frontier technologies. Indeed, we already live most of our lives in the vast murky middle

ground, in which 'our' acts, choices and desires are inextricably shot through with the purposes and desires (seldom benign) of others. We already live in a largely artificial world dominated by advertising, institutions, practices, ideas, ideals and the incessant self-serving chorus of memes gone wild.

It helps too to remind ourselves that the conscious mind is perfectly at ease with reliance upon just about anything that works. The biological brain is itself populated by a vast number of unconscious 'zombie processes' that support our behavior and help drive our choices and actions. If technology-based enhancements add, to that standard mix, still more processes whose basic operating principles are not available for conscious inspection and control, so what? The patient using a brain-computer interface to control a wheelchair will not typically know just how it all works, or be able to reconfigure the interface or software at will. But in this respect, the new equipment is simply on a par with much of the old. To fear that this must inevitably lead to dilutions of self-control and diminishment of responsibility is to miss the fact that we are already host to scores of similarly hidden processes. Properly tuned, it is the fluid running of all this stuff that makes us autonomous agents at all. Insofar as this is compatible (in the biological case) with a sufficiently robust notion of self-control and of responsibility, it must at least be possible for the same to be true in the case of well-tuned technologically mediated enhancements.

I have learnt a great deal from S and E's patient, wise, and engaging critique. I have learnt, especially, that there is a delicate (and somewhat audience-sensitive) line between

trying to defuse what I see as unwarranted forms of technophobia and being seen as promoting an equally unwarranted form of gung-ho techno-optimism. Relatedly, since I was not attempting to deliver a full-blown "philosophical anthropology", what S and E saw as distortive omissions I saw merely as other stuff: stuff that might be addressed in many different ways, all of them consistent with my main purpose. That purpose was to question our obsession with the ancient skinbag as a cognitive boundary, and to depict future waves of technological mediation as more steps along a familiar, and familiarly human, path.

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## References

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